Installation instruction and user guide
LONWORKS® FTT-10A plug-in module
Order number: 68505078

This installation instruction and user guide applies to the installation and connection of the LONWORKS® FTT-10A plug-in module for heat and cold meters PolluStat E and PolluTherm.

Scope of delivery:

- LONWORKS® FTT-10A plug-in module

- Sealing material for housing of PolluStat E or PolluTherm

- CD-ROM with configuration files (*.XIF, *.APB, *.NXE)

- This installation instruction and user guide

Directions:

- The installation, the electrical connection and the commissioning should be carried out by a suitably qualified person
- At the end of their useful life electrical devices have to be transferred to a suitable collecting point for professional disposal
- Please find actual information and further documentation on the subject of LONWORKS® under http://www.lonmark.de, http://www.lonmark.org and http://www.echelon.com

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1. Description / technical data
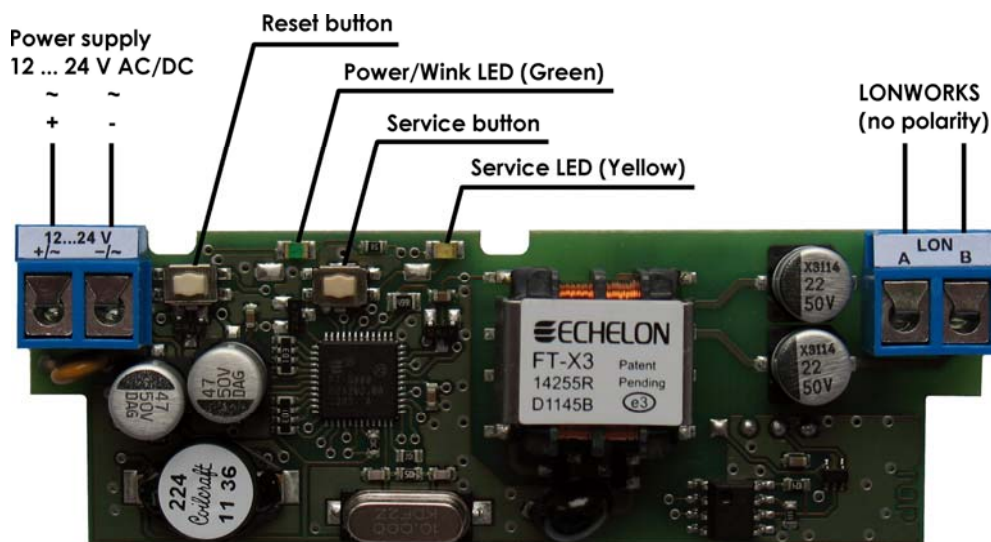
- LONWORKS® FTT-10A (Free Topology Transceiver)

- Power supply: 12 ... 24 V AC (50 / 60 Hz) or DC

- The connections for the LONWORKS®-communication are not polarity sensitive

- Power input: approx. 0.5 VA

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1.1. Service button and service LED (activation and configuration of the LON-node)

After pushing the service button the module transmits a special data telegram which includes the unique 12 digit identification address (Neuron®-ID). This identification address is also indicated on a label on the front of the module and can be read with a bar code reader.

Front of the module with barcode-label   *Back of the module with label*

Flash-codes of service LED

Flash-Code	Description	Meaning
LED lights up for < 1 second after start up and stays off afterwards	Normal operation	Node is configured and works properly
LED lights constantly	Fatal error	Problem with hardware or hardware failure
LED is blinking with a frequency of 1 Hz	Unconfigured	Node has to be configured
LED lights up for approx. 1 second, turns off for 2 seconds and then lights constantly	Application error	Recognized application is not compatible with hardware
LED lights up for approx. 0.2 seconds and then turns off for approx. 1.8 seconds (sequentially)	Watch dog issue	Reset of the internal watchdog-timer not possible, therefore an automatic reset of the Neuron®-Chip was initiated.

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1.2. Description of the Power/Wink LED

- When the module is connected to the power supply, it lights green.

- The reception of a WINK-command is confirmed with ten flashes of the light emitting diode.

1.3. Network topology and cable length

The permitted wiring length per segment depends on the network topology and cable type. Per segment up to 64 nodes can be connected, with a repeater up to 128 nodes are possible.

Examples for free wiring scheme (tree structure, star structure, …) with single-sided ending:

Cable type	Maximum length from node to node (m)	Maximum length of whole network without repeater * (m)
J Y(St)Y 2x2x0.8	320	500
Belden 8471	400	500
LON-CNP EN 14908-2	450	450

* Values are doubled with a repeater

Examples for Bus wiring scheme with double-sided Bus-ending:

Cable type	Maximum length of whole network without repeater * (m)
J Y(St)Y 2x2x0.8	900
Belden 8471	2,700
LON-CNP EN 14908-2	2,700

* Values are doubled with a repeater

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1.4. Overview of variables

Variable name	Variable type	Unit	Description
Node object variables			
nviRequest	SNVT_obj_request	-	not used
nvoStatus	SNVT_obj_status	-	not used
Configuration parameters			
nciReadTime	SNVT_time_min	min	Time between consecutive readouts of the heat or cold meter by the LONWORKS® interface. Available range: 1 to 65534 minutes / resolution: 1 minute When variable is set to zero, meter read out is disabled. The setting of this value depends on the energy supply of the meter. In case of battery supply this value shouldn't be below 15 minutes* (these meters have a limit concerning the daily amount of external data transmissions in order to avoid exhaustion of the meter battery during its life time period). In case of mains supply 230 V AC or 24 V AC there are no limitations.
nciModeHrtBt	SNVT_time_sec	sec	Heart beat time period for automatic transmission of nvoFabNumber into the LON network. Available range: 0 to 6553.4 seconds / resolution: 0.1 seconds When nciModeHrtBt is set to zero, the heart beat propagation is disabled.
nciPollMode	SNVT_switch	-	Setting {0;0} Polling mode is switched-off; the LON interface automatically reads the meter and transmits new values into the LON network according to the choosen nciReadTime period. Setting {100;1} Polling mode is switched-on; the LON interface automatically reads the meter according to the choosen nciReadTime period but does not automatically transmit new values into the LON network; values are only transmitted in response to externally generated poll requests.
Network variables			
nvoCustomerNo	SNVT_str_asc	-	Customer number
nvoEnergy	SNVT_elec_whr_f	Wh	Energy
nvoErrorCode	SNVT_state	-	Meter status / Error code
nvoFabNumer	SNVT_str_asc	-	Fabrication number
nvoFlow	SNVT_flow_f	l/sec	Flow rate of heating or cooling liquid
nvoPower	SNVT_power_f	W	Heating or cooling power
nvoSupTemp	SNVT_temp_p	^{o}C	Temperature in warmer pipe (supply pipe in heating system, return pipe in cooling system)
nvoRetTemp	SNVT_temp_p	^{o}C	Temperature in colder pipe (return pipe in heating system, supply pipe in cooling system)
nvoTempDiff	SNVT_temp_p	^{o}C	Temperature difference
nvoVolume	SNVT_vol_f	l	Volume
nvoTariffEnergy	SNVT_elec_whr_f	Wh	Tariff Energy
nvoCoolingEnergy	SNVT_elec_whr_f	Wh	Cooling Energy

* In case you need an interval below 15 minutes for battery powered meters, please contact our service department

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2. CD-ROM with configuration files

The plug in unit is suitable for the ultrasonic meter PolluStat E and the calculator PolluTherm. The delivered CD-ROM contains three corresponding configuration files (*.XIF, *.APB, *.NXE):

PolluMulti_0_9_0.APB   PolluMulti_0_9_0.NXE   PolluMulti_0_9_0.XIF

The previous models of PolluStat E and PolluTherm can also be equipped with the LON modules.

3. Opening of the meter

- Remove customer seal from the housing of the meter

- Open the housing

  Ultrasonic meter PolluStat E and calculator PolluTherm: Press both closing clips on the lower edges of the housing and open cover upwards

  Previous versions: Fold away the black locking latch and open housing cover

4. Installation and connection of plug-in module

4.1. PolluStat E and PolluTherm

Rear socket, usage of the four right contacts

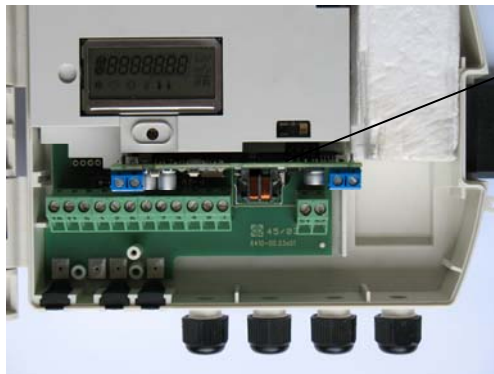The module has to be plugged in carefully in the rear socket with the six contacts.

Please make sure that the four pins of the module are plugged in the four right contacts of the socket.

The two left contacts remain unused.

For connection of cables first take the particular rubber form part from the calculator housing and pierce a hole with a small screw driver. Then take the relevant cable, put it through the hole and create a strain relief with a cable strap (supplied). Connect the wires with the related terminals and put the rubber form part back in the housing.

Close the calculator housing afterwards and seal it with the supplied selflock-seal.

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4.2. Previous versions of PolluStat E and PolluTherm

Rear socket

The module has to be plugged in carefully
in the rear socket with the four contacts.

Each cable has to be put through a free cable gland and connected with the related terminals of the module.

Close the calculator housing afterwards and seal it with the supplied selflock-seal.

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